



CASE 4-23009/A/CGC 2177

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF  
BRUCE OWEN GRIFFIN ET AL  
APPLICATION NO: 10/762,023  
FILED: JANUARY 21, 2004  
FOR: DYE MIXTURES

Group Art Unit: 1751  
Examiner: M. V. Einsmann

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.132**

Sir:

I, Bruce Owen Griffin, declare as follows:

I hold a Bachelor of Science degree in Chemical Engineering and a Bachelor of Science Degree in Textile Chemistry both from North Carolina State University.

I am currently a technical specialist for the Textile Effects business line unit for Ciba Specialty Chemicals Corporation with overall responsibility to lead technical development of products for the automotive business of the North America region. I am also responsible for coordinating the Technical Service Labs for the Technical Textile segment of North America located in High Point, North Carolina. This service lab is responsible for research work and customer service work to this industry.

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I have 21 years experience in the textile and related chemicals industry varying from fabric development, dye and chemical developments, to industry performance testing and standards development.

I started my career with Milliken & Co as process engineer for textile fabric processing. I contributed to the technical development of apparel and industrial fabrics for 7 years. I spent two years in chemical development of AAA cell battery for Duracell. I then continued my textile career for five years with Burke Mills as plant chemist responsible for development of dye and chemical formulations for processing yarns used in the automotive industry. For the last eight years, I have been responsible for technical development of dyes and chemicals at Ciba Specialty Chemicals Corporation. I provide technical expertise to our customer base with specific expertise for processing automotive textile substrates. I screen new chemistries for use in this industry, develop and market new products within the Textile Effects business unit.

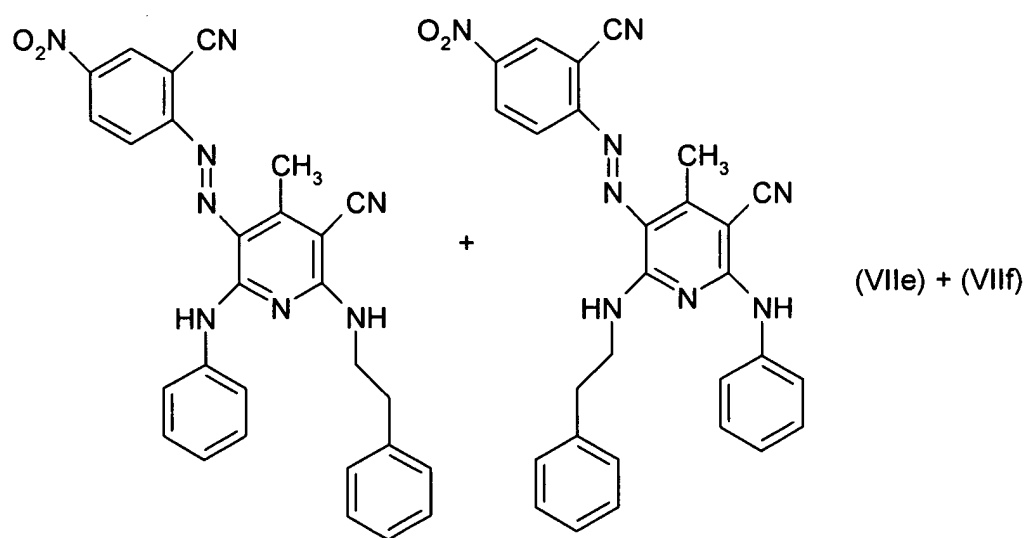
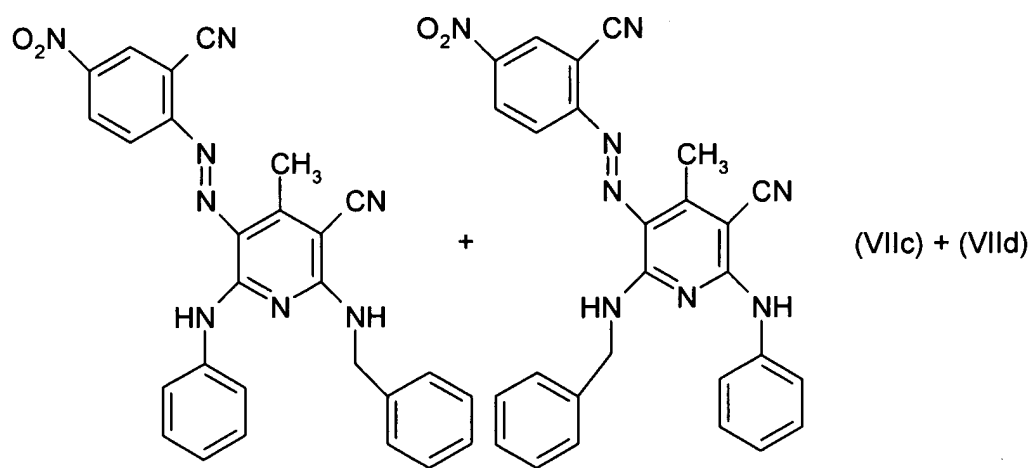
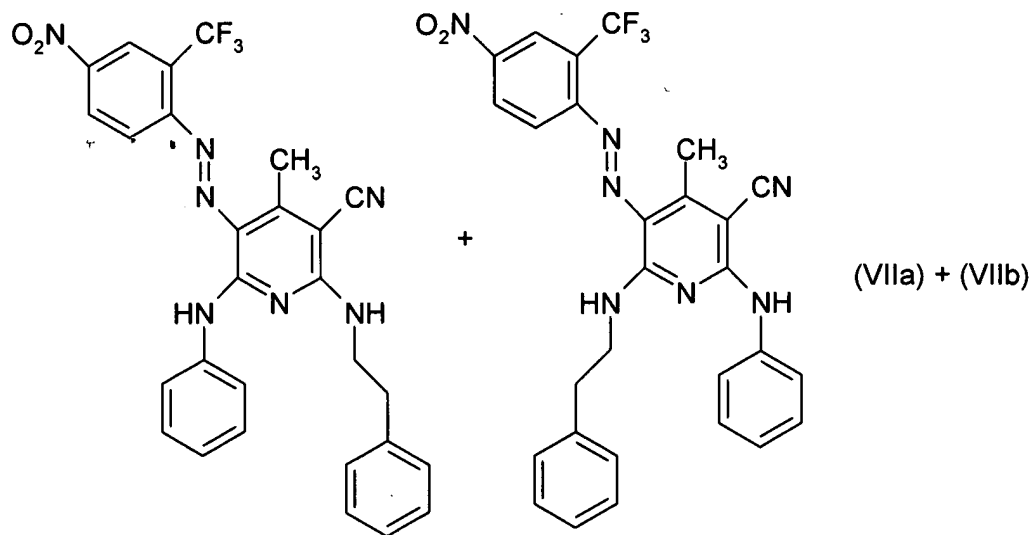
Based on my education and experience, I consider myself an expert in formulations of dyes and chemicals that satisfy the automotive and technical fabrics industries performance requirements. I am familiar with most chemistry used in these industries and am able to formulate and mix these products in a manner than passes the industry standards. It is widely known in the industry that only specific mixes of chemistries can be used to pass the standards. As the industry standards become more difficult and as textile substrates evolve, new chemistries are developed and mixes of these chemistries must be reevaluated for their effectiveness.

I declare that I am an inventor of the above-identified patent application.

I have read the Office action mailed on November 28, 2005 in regard to said application.

That the red-dyeing mixture of dyes of the formulae VIIa – VIIf in the disclosure and claims of the above-identified application contains a self-evident clerical error since dyes VIIa and VIIe are the same and dyes VIIb and VIIf are the same. This error occurred inadvertently when dyes VIIa and VIIb were used as templates to draw the structures of dyes VIIe and VIIf, wherein the CF<sub>3</sub> groups in VIIa and VIIb should have been replaced by CN groups but were not.

That the correct structures of the dyes of formula VII is as follows:



That applicants teach in the next to last paragraph of page 19 of the above-identified application:

"The individual dyes of the formulae above as well as the dye mixtures of the formulae VIIa - VIIf, VIII, Xa + Xb, XIV, XVIIIa + XVIIIb and XXa + XXb are all known per se and are commercially available, in most cases from Ciba Specialty Chemicals Corporation, in the form of dye preparations."

That cited WO 02/059216 discloses on pages 3-4, in the same order as shown above, all 6 of the correct structures as "important" dyes; see formulae (4), (5), (6), (7), (8) and (9).

That the 6-component mixture with the structures shown above corresponds to a product of Ciba Specialty Chemicals Corporation which has been commercially available in the form of a dye preparation since 2002. Hence, those of ordinary skill in the area of high performance disperse dyes and dyeing would not only know that original formulae VIIe and VIIf were clearly erroneous, but would also know that the structures shown above for the dyes VIIe and VIIf were clearly intended and correct.

I further declare that the red dyeing mixture actually used in Example 2 of the above-identified application employed the 6-component mixture with the corrected structures shown above.

I further declare that the following experiments were conducted by me or under my supervision using said 6-component mixture with the corrected structures shown above. In the table below are the lightfade results of a grey shade dyed with yellow dyeing mixture, blue dyeing mixture, UV absorber, and the red dyeing mixture in question; all of which are identified in said patent. These dyeings were consequently exposed to test method GMW3414 at 1354kj exposure level yielding these results.

Table of lightfade results

Red Dyeing Mixture	Residual strength	Da red/green shift	Db yellow/blue shift	De total shade difference
100% VII a-f	83	0.04 red	-0.60 blue	2.63
90% VIIa-f/ 10% VIII	85	-0.11 green	-0.24 blue	1.07
80% VIIa-f/ 20% VIII	84	-0.13 green	-0.13 blue	1.10
50% VIIa-f/ 50% VIII	83	-0.16 green	0.04 yellow	1.20

### CONCLUSIONS

The dye mixture of the formula VIII normally gives unsatisfactorily performance when used in high performance disperse dyeings. This dye mixture of formula VIII also has limited performance in other dyeing properties such as color strength buildup and was unsuitable for use in darker shades if used as sole red component. Hence I find it to be very surprising and completely unexpected that its use in combination with the dye mixture of the formula VII actually provides enhanced performance in correcting the yellow/ blue shade shift with regard to lightfastness and versus the dye mixture of the formula VII when used alone. The improvement in shade shift only occurs in a narrow range of mixtures. I would never have expected this.

I further declare that these improvements are of considerable commercial importance, particularly in the area of fabric dyeings for the automotive industry.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed at High Point, NC on the 17th day of February, 2006 by

  
Bruce Owen Griffin

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